URBAN DESIGN VISION

THE FREMONT HUB

MEGAN MILLER
City and Regional Planning
California Polytechnic State University, San Luis Obispo

Professor Amir Hajrasouliha
Senior Project Advisor

APPROVAL PAGE

TITLE:	Urban Design Vision for the Fremont Hub in Fremont, California
AUTHOR:	Megan Miller
DATE SUBMITTED:	march 21, 2018

AMIR HAJRASOULIHA
SENIOR PROJECT ADVISOR

_____ SIGNATURE

_____ DATE

MICHAEL BOSWELL
DEPARTMENT HEAD

_____ SIGNATURE

_____ DATE

ACKNOWLEDGMENTS

THIS PROJECT WOULD HAVE NOT BEEN POSSIBLE WITHOUT THE ASSISTANCE OF INDIVIDUALS OVER THE COURSE OF COMPLETING MY SENIOR PROJECT. I WOULD LIKE TO THANK MY ADVISOR, AMIR HAJRASOULIHA FOR PROVIDING ME WITH HELPFUL RESOURCES AND IDEAS DURING THE ENTIRE PROCESS OF MY SENIOR PROJECT. HIS WILLINGNESS TO SHARE HIS ADVICE AND KNOWLEDGE OF URBAN DESIGN MADE THIS PROJECT SUCCESSFUL.

IN ADDITION, I WOULD LIKE TO THANK THE CITY AND REGIONAL PLANNING DEPARTMENT AT CALIFORNIA POLYTECHNIC FOR PROVIDING EXCELLENT RESOURCES AND FACILITIES TO COMPLETE THIS PROJECT. LASTLY, THANK YOU TO MY FAMILY AND FRIENDS FOR THE SUPPORT DURING THE TIME OF MY UNDERGRADUATE PROGRAM.

TABLE OF CONTENTS

1	**EXECUTIVE SUMMARY**	**7**
2	**HOW TO RETROFIT SUBURBAN AREAS**	**8**
2.1	PRINCIPAL RETROFITTING STRATEGIES	9
2.2	ADAPTIVE REUSE	10
2.3	CREATING A WALKABLE, MIXED USE ENVIRONMENT	11-13
2.4	SUSTAINABILITY	14
2.5	TAKEAWAYS	15
3	**CASE STUDIES**	**16**
3.1	SANTANA ROW	17
3.2	MASHPEE COMMONS	18
4	**FREMONT'S BACKGROUND**	**19**
4.1	LOCATION	20
4.2	POPULATION	20
4.3	HOUSING	21
4.4	INCOME	21
4.5.	EMPLOYMENT	21
4.6	ECONOMIC DEVELOPMENT	22
5	**PROJECT SITE**	**23**
5.1	THE FREMONT HUB	24
5.2	LOCATION	24
5.3	HISTORY	24
5.4	CIRCULATION	25
5.5	ZONING	26
5.6	TENANTS	27-28
5.7	SITE INVENTORY	29-37
5.8	SURROUNDING CONDITIONS	38
5.9	OPPORTUNITIES & CONSTRAINTS	39
6	**VISION**	**40**
6.1	VISION, GOALS, & OBJECTIVES	41-42
6.2	LAND USE	43
6.3	BUILDING TYPOLOGY	44
6.4	CIRCULATION	45
6.5	STREET TYPOLOGY	46
6.6	PLAZA & PARKS	47
6.7	DEVELOPMENT TABLE	48-49
7	**CONCLUSION**	**54**
8	**REFERENCES**	**55**

FIGURES

1 EXECUTIVE SUMMARY

1.1 PROJECT SITE 6

2 HOW TO RETROFIT SUBURBAN AREAS

2.1 BEFORE REDEVELOPMENT 9
2.2 AFTER REDEVELOPMENT 9
2.3 ADAPTIVE REUSE 10
2.4 DIVERSITY 11
2.5 PEDESTRIAN INFRASTRUCTURE 12
2.6 UNDERUSED PARKING LOTS 13
2.7 BIORETENTION 14
2.8 WALKABLE ENVIRONMENT 15

3 CASE STUDIES

3.1 SITE PLAN OF SANTANA ROW 17
3.2 SANTANA ROW'S WALKABLE STREETS 17
3.3 BEFORE RECONSTRUCTION 18
3.4 LIVE-WORK UNITS 18

4 FREMONT'S BACKGROUND

4.1 SITE MAP OF FREMONT DISTRICTS 20
4.2 EMPLOYMENT 21
4.3 MAJOR TECH COMPANIES 22

5 PROJECT SITE

5.1 THE FREMONT HUB 24
5.2 CIRCULATION MAP 25
5.3 ZONING MAP 26
5.4 SITE PLAN OF FREMONT HUB 27
5.5 SITE INVENTORY MAP 29
5.6 SURROUNDING CONDITIONS MAP 38

6 VISION

6.1 ILLUSTRATIVE SITE PLAN 42
6.2 PROPOSED LAND USE MAP 43
6.3 COMMERCIAL UNIT 44
6.4 MIXED-USE UNIT 44
6.5 HIGH-DENSITY RESIDENTIAL UNIT 44
6.6 TWO STORY TOWNHOME 44
6.7 THREE STORY TOWNHOME 44
6.8 PROPOSED CIRCULATION MAP 45
6.9 STREET PARKING 45
6.10 PROPOSED STREET TYPOLOGY 46
6.11 PROPOSED PLAZAS 47
6.12 DEVELOPMENT TABLE MAP 49
6.13 VIEW OF PROPOSED PLAZA 50
6.14 VIEW OF PROPOSED STREET 51
6.15 VIEW OF PROPOSED TWO STORY TOWNHOME 52
6.16 VIEW OF PROPOSED RESIDENTIAL PLAZA 53

FIGURE 1.1 PROJECT SITE

1

EXECUTIVE SUMMARY

The Fremont Hub is located in Fremont, California, the fourth-largest city in the San Francisco Bay Area for population. It consists of over 504,000 square feet of commercial units and parking area. The buildings are surrounded around the Hub with all of the stores facing inward, which make it difficult to be pedestrian friendly. Today, a more walkable and diverse approach is neccessary, in order for a shopping center to continue to succeed.

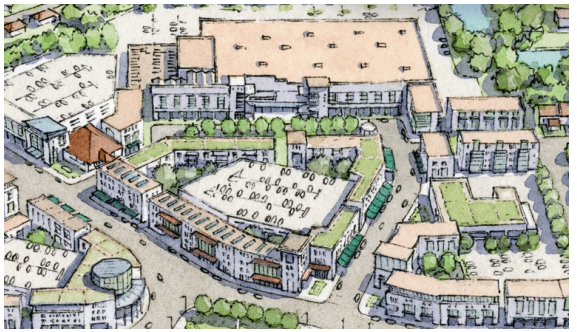
Since the location of the Fremont Hub is in a unique location, in the center of Interstate 680 and Interstate 880 and adjacent to the new Fremont Downtown. This provides an exceptional opportunity to redevelop a underused shopping center. The proposed design includes commercial buildings, mixed-use buildings, townhomes, and public plazas. In addition, parking garages are implemented to maximize the project area and use more efficient space within the project site. The proposed design will transform the Fremont Hub into a more walkable, pedestrian friendly environment.

LAND USE	NUMBER OF STORIES	SQUARE FOOTAGE	UNITS
COMMERCIAL RETAIL	1	641,826	N/A
HIGH-DENSITY RESIDENTIAL	2 TO 3	1,459,485	1,262 (1,2,3 BEDROOM)
MEDIUM-DENSITY RESIDENTIAL	2 TO 3	167,637	46 TOWNHOMES
	TOTAL	2,268,948	1,308 UNITS

2

HOW TO RETROFIT SUBURBAN AREAS

This literature review focuses on principles of retrofitting strategies to provide insight on reusable, walkable, and sustainable communities. Discussing the importance of these three strategies, and how they can be implemented, can help us understand the importance when developing a mixed used area.



2.1 PRINCIPAL RETROFITTING STRATEGIES

There are three principal retrofitting strategies in order to understand how to retrofit suburban areas, such as shopping malls. The first principal is the idea of re-inhabitation, where existing structures are reused for community serving purposes for social interactions (Dunham-Jones & Williamson, 2011). This means that the public is provided a space to interact with other people in places that already exist. The second principal is redevelopment, which replaces existing structures and/or buildings on existing parking lots, and put in place a compacted, walkable, and connective mix of uses and spaces for the public that creates a less auto-dependent and more social lifestyle (Dunham-Jones & Williamson, 2011). Redeveloping spaces by focusing on key elements, such as density, parking, street network connectivity, streetscape, diversity, and pedestrian infrastructure will provide a space that is a walkable, mixed use environment where the public feels invited and can interact with one another (Figure 2.1 and Figure 2.2). The third and last principal is the idea of regreening, which is destroying existing structures completely or partially and revitalizing the area as sustainable elements such as green roofs, storm water management, and recycled materials (Dunham-Jones & Williamson, 2011). Using these three principal strategies is very useful for familiarizing the community to retrofitting. With these strategies implemented in areas like shopping malls, it could be very useful to put them to use to introduce the public to retrofitting and improve the current development. Overall the objective is to redevelop a site that provides a place that is welcoming to the public, accessible for everyone, and provides connectivity throughout the entire property.

FIGURE 2.1 BEFORE USING THE PRINCIPLE REDEVELOPMENT

FIGURE 2.2 AFTER USING THE PRINCIPLE REDEVELOPMENT

2.2 ADAPTIVE REUSE

Over a period of time, buildings eventually go out of style or no longer have a use for what it was originally used for, and it either gets torn down or abandoned. This is where adaptive reuse becomes a key component for retrofitting suburban areas. Adaptive reuse is a change for a disused or ineffective building into a new building that can be used for a different for a different purpose, or sometimes, there isn't even a change in the building, just the use of it (Built Environment, 2004). With adaptive reuse, this allows a way to preserve a building, when it cannot function with its original use, instead of demolishing it. Specifically, adaptation should take place with historic or heritage buildings to prevent them from destroying their sense of history and character of the city. Keeping historic buildings are important to continue and offer so much character, identity and aesthetics to the communities they are built in. Examples of these types of buildings may include, churches, schools, or museums (Figure 2.3). When adaptive reuse is done well, it continues their historic significance of the building and is being put to a use that is effective (Built Environment, 2004). One important thing to consider when looking at the buildings potential for adaptive reuse is where it is located. Location is key to determine if the building's adaptive reuse is possible (Wilkinson, 2014). If the building is in a location that is hidden or not surrounded by a high pedestrian or trafficking area, it may not be feasible to use the component of adaptation. However, if the building is in an area where it is high in pedestrian volume and surrounded by other commercial buildings, it could benefit the area to have a reused building. Another important component to think about it the aesthetics of the building itself. When applying adaptation, one needs to enhance the physical and economic characteristic of the building (Wilkinson, 2014). This will give it character and a fresh look, but still continue the historic appearance of it. Applying this strategy will continue to give the city a sense of character, and be able to provide a use that will be more effective.

FIGURE 2.3 GEORGIAN-STYLE TOWNHOUSE REDEVELOPED INTO A CHURCH

Density

The key to suburban renewal is influenced by two major factors, which is walkability and density. Density is frequently defined as the population per square mile, but defining it this way makes it difficult to understand it in terms of walkability (Campoli, 2012). To create a place that encourages and promotes walking, density should be measured by the foot, instead of square mile. This allows planners to look at it from a pedestrian scale and design an environment that is comfortable for people as they walk along the streets (Campoli, 2012). Planners strive to make a city the best it can be by making it walkable, sustainable, and overall a healthier place. Having a denser place will promote diversity, and will allow things to be close together in order to access it all by foot. A large number of people who are close together in housing, but also next to many job opportunities makes feasible for mixed use to become a useful and more livable environment. This is a strategic idea which is locating everything together in one area. Designing ways in which an area is walkable for the public is an important factor in retrofitting a property. Density is one of the many ways to accomplish this, but it cannot be the only factor by itself.

Diversity

In order for an area to be an efficient, walkable place, diversity should be applied. When a place is diverse, it means that it has a mix of uses that provide a wide range of opportunities in a dense area where one can access them by foot, and not by a vehicle. Larger diversity provides a higher number of services in a small area where employees and residents of the area are able to access it on foot or bike (Campoli, 2012). An example of a diverse area would be buildings that include residential, commercial, industrial, and retail uses that are cleverly woven together. In this instance,it would be smart to provide retail services on the ground floor levels, while having a mix of businesses and homes on the upper levels (Figure 2.4). This allows for all the ground floor levels to blend well together and with the surrounding sidewalks and public places that provide a continuous network of pathways. Having retail on the ground floor levels creates an inviting place for the public that is safe, comfortable, and engaging. In terms of office spaces, there do not provide an inviting feel to the public, but are essential to have. In addition, providing residential units on the upper floor levels, allows residents to have a sense of privacy from the public, but also have the convenience to access the retail uses. With all three types of zones implemented, it provides a large sense of diversity that will influence a more walkable area because of how convenient and accessible it is.

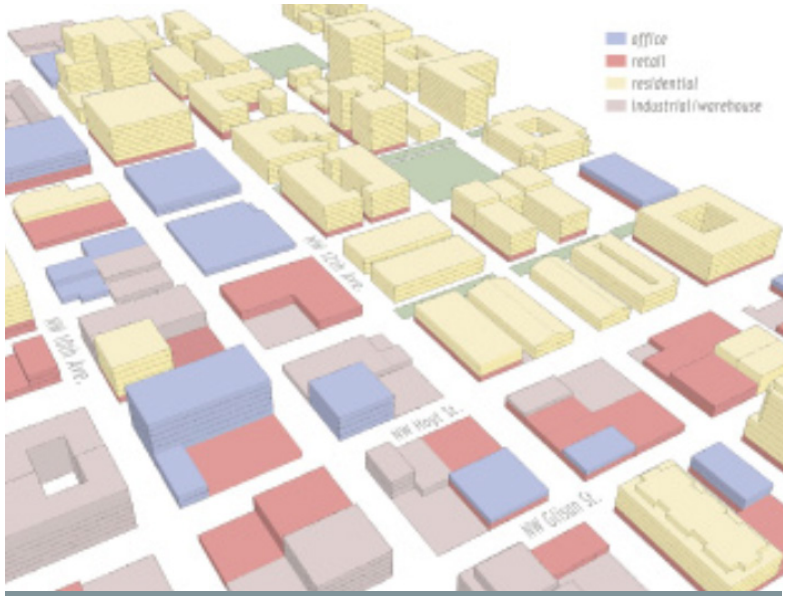


FIGURE 2.4 A DIVERSITY OF LAND USES IN AN AREA

Pedestrian Infrastructure

Pedestrian infrastructure is another element that can be implemented in making a more walkable environment. Pedestrian infrastructure refers to traffic and pavement conditions, such as traffic calming elements and pavement maintenance, and amenities, such as benches, that promote walking in a neighborhood (Zandieh, 2016). To have a good pedestrian infrastructure means making pedestrians feel comfortable walking. An example to allow pedestrians to feel comfortable is implementing street furniture. Street furniture has the "power to enhance and create a place where pedestrians choose to spend their time" and is an essential part of urban fabric (Pedestrian Infrastructure, 2017). In addition, footpaths are essential for walking and should facilitate both moving activities and standing activities, with materials and furniture that is suitable to cater for both. This means providing firm, even, and slip resistant surfaces that have a sense of connection in order for pedestrians to feel comfortable in a walkable environment. Designing pedestrian infrastructure is an important concept to think about and needs to be a proper and efficient design. Placing amenities, such as benches and street trees, on the sidewalk can become too cluttered for pedestrian to move around comfortably if they are not placed properly (Walk Boston, 2015). To avoid pedestrians feeling uncomfortable, one needs to design the area to leave room for them to utilize amenities, as well as navigate up and down the sidewalk comfortably (Figure 2.5). Providing these examples of pedestrian infrastructure as discussed could provide a walkable environment.

FIGURE 2.5 STREET TREES AND WIDE SIDEWALKS FOR PEDESTRIANS

Street Network

Creating walkable communities has become an important element through street network, which promote a higher number of people walking and less miles traveled by vehicles. Street networks can be characterized through a combination of shape and configuration, the scale of the network, and the connectivity of the streets (CNU). There is a wide range of variations that exists and there is not one way to achieve good street network. Although there is not a specific way to accomplish good street network, the goal is to develop a design that better supports a community with people who dress less and live healthier lifestyles (CNU). To create a good pattern for street networks, planners need to create a human-scale network that has a dense pattern of streets and intersections (CNU). This means creating places where people enjoying spending their time and where it is safe to walk to, as well as it all being densely close together. Providing good street networks should attract the pedestrians that are walking and be convenient for them to access amenities around them. In addition, smaller blocks allow pedestrians to feel more comfortable because it has direct paths to their choice of destinations (CNU). If there is an accessible area for pedestrians to walk, it will be an encouragement for that. Having a focus on designing communities with street and street networks that work together and are designed to evoke positive emotions, can be an essential step in the right direction (CNU). Our goal is to promote walkability and applying good street network makes it possible to do that.

Streetscape

In order for an area to be complete, streetscape elements should be implemented to help strengthen the character of the place. Streetscape elements are commonly referred as sidewalks, street pavements, benches, plant related items, street lighting, and more. Having sidewalks should be considered a "pedestrian zone" that allows access to buildings and an "amenity zone" closest to the curb for trees, planters, seating, etc. (Streetscape Elements). In addition, street paving goes with sidewalks. When designing pedestrian oriented, mixed-use streets, implementing different color concrete and textures such as stone or brick can intensify the walking path and should complement the streets and buildings that it is surrounded by. With designing street paving, one needs to be aware that it should be complement other street paving and should have a purpose on why it is used. Another element is benches and seating which is very important in a public space. Having any sort of designated seating area, especially in a mixed-use area allows it to be a more inviting place. When thinking about locations for seating, it should be grouped together as much as possible and be put where the busier gathering places are (Streetscape Elements). Also, having seating does not necessarily mean it has to be benches or chairs. Seating can be designed in a way where people are able to sit on permanent planter edges, which is turns into another element. Planters and street trees add a sense of color and variety to the area where there are active pedestrians. In addition, they can function as a separation or buffer between pedestrians and vehicles that provide a safer area. Lastly, street lighting is a very important element when it comes to streetscape because it allows pedestrians to travel in the dark and helps with safety. It should be aesthetically pleasing and consistent throughout the area, and unify with other streetscape elements (Streetscape Elements). Including streetscape elements to an area helps create it to be more attractive and walkable.

Parking

Currently, places are not being used to its full potential and lack many areas throughout the property, such as parking lots. One of the big issues is that parking is taking up an abundant amount of an area which takes away the space that could be designed to form a more useful purpose, such as more accessible and walkable community spaces (Figure 2.6). There are examples of how places have "replaced a typical low-rise enclosed shopping mall that is surrounded by parking lots with a more or less interconnected, walkable street grid, lushly planted public spaces, and ground level retail topped by two to eight stories of offices and residences" (Jones & Williamson, 2011). Doing this, it creates a space that is being used to its full potential, instead of providing underused parking that is wasting space and creating an environment that is less auto-dependent. In addition, implementing smarter parking policies can help start a cycle of urban pedestrianism, such as creating fewer parking lots to free up space for housing, employment, and recreation so that services are in close proximity (Campoli, 2012). These are strategies to recreate and redesign areas with high amounts of parking so that it is accessible, inviting, livable, and encourages transportation by bike or foot.

FIGURE 2.6 UNDERUSED PARKING LOT

Stormwater Management

Stormwater management is an element to consider when redeveloping an area to be more sustainable. Stormwater is rainwater or melted snow that runs off streets, lawns, and other areas and when it is absorbed into soil, it is filtered and replenishes aquifers or flows into other bodies of water such as streams or rivers (EPA, 2017). This happens because pavement and roofs are impervious surfaces and do not allow precipitation to soak into the ground, so instead the water runs quickly into storm drains, sewer systems and drainage ditches (EPA, 2017). This can cause a number of hazards such as downstream flooding, streak bank erosion, increased turbidity from erosion, habitat destruction, combined storm water and sanitary sewer system overflows, contaminated streams, rivers and coastal water, and most importantly, infrastructure damage (EPA, 2017). Using stormwater strategies can reduce runoff and improve stormwater quality. One strategy to use is permeable pavements, which includes porous asphalt, porous concrete and pervious interlocking concrete paver blocks (EPA, 2017). By using permeable pavements, stormwater can infiltrate through the surface into the soil and groundwater. Another strategy to implement is having bioretention areas that are shallow landscape depressions that allow runoff to collect in a designated area and filter through soil and vegetation (Figure 2.7) (EPA, 2017). This reduces flooding in areas by providing a chosen area for water to go. In addition, vegetated swales, that are channels used to transport water, can be implemented in small drainage areas, which help slow down runoff, facilitate infiltration and filter pollutants while runoff drains through the channels (EPA, 2017). This allows a sustainable, but aesthetic way to support stormwater management. These are only three strategies that can be implemented to provide a sustainable environment through stormwater management, while there is an abundant of other strategies as well.

FIGURE 2.7 BIORETENTION LANDSCAPING FOR RUNOFF

Green Roofs

Green roofs are one example of sustainable architecture to implement on buildings that are beneficial to the environment. Green roofs are when a building's roof is either partially or completely covered with vegetation and it allows buildings to be more energy efficient and environmentally friendly (Barron, 2006). The vegetable enables rainfall infiltration and evapotranspiration of stored water (EPA, 2017). Due to global warming, green roofs provide an opportunity to reduce the heat island effect, while also providing outdoor public space for people to enjoy. In European countries, green roofs are very common whereas in the United States, they are sporadic. This is because green roofs are economically beneficial over a period of time, but the initial cost can exclude builders to implement them on structures because it is more expensive (Barron, 2006). In addition, green roofs have other environmental benefits such as, controlling storm water runoff, improving the water quality and air quality, reducing heat and cooling costs, and extending the lifespan of the roof membrane (Barron, 2006). Implementing green roofs can be a positive effect to create a more sustainable environment.

2.5 TAKEAWAYS

I studied 13 books and each of them proposed certain strategies or design principles that will pertain to my project. The first strategy I plan to adopt is adaptive reuse by looking at the project site I am redeveloping and seeing if there are any historic or innovative building that I would be able to keep and implement it into my development project. Applying this strategy, I would be able to continue a sense of history and give the project site some character that the community can enjoy and be apart of. Next, I plan to adopt strategies on how to implement a walkable, mixed use environment (Figure 2.8). By doing this, I will focus on diversity and density first by designing a compacted area with diverse uses. By designing a compact area that include a variety of different uses, it will allow pedestrians to be able to access them anywhere on the project site conveniently by foot and will encourage walkability. Also, to create a walkable environment, I will implement good pedestrian infrastructure, such as sidewalks and pathways, that will give pedestrians a direct way to travel by foot from place to place and support the idea of walking. In addition, applying streetscape throughout the project site will promote walkability and will create a more attractive and inviting place for people to be around. With this, I plan to implement streetscape elements, such as seating, patterned pavements, and planting opportunities that will assist this. Lastly, I will adopt sustainable strategies for my project site such as stormwater management elements, which include permeable pavements, biorention areas, and vegetation swales. This will help will runoff not build up in areas and will be an efficient way to collect this water without it being noticed. Also, green roofs are another element that is both sustainable and aesthetically pleasing for an area. Not only does it help with reduce the heat island effect, it also provides an outdoor public place for people to enjoy. With adopting these strategies and principles, I hope to redevelop an area that is transformed into a reusable, walkable, and sustainable mixed-use area.

FIGURE 2.8 WALKABLE, MIXED-USE ENVIRONMENT

3
CASE STUDIES

The following two case studies are excellent examples of successful strip mall redevelopments. These case studies will provide innovative ideas when making design decisions for the Fremont Hub.

Santana Row

Mashpee Commons

3.1 SANTANA ROW

Santana Row, which is located in San Jose, California, is an attractive redevelopment project known for its variety in architectural character, pedestrian-friendly design, and a mix of national retail stores (City of Santa Clara). Santana Row is a 42 acre mixed use development that offers 680,000 square feet of retail space and restaurants, 1,200 residential units ranging from lofts to townhouses, two hotels, and several green spaces and plazas (ULI Development, n.d.).

This project was completed in 2006 when it replaced a 1960s-era single story, suburban shopping center of ten buildings that were surrounded by parking lots (ULI Development, n.d.). Previously as a single-story mall, Santana Row is an excellent example of how mixed-use a development can transform a dying space into a social and economic city hub. Santana Row includes mixed used neighborhoods that does an excellent job of eliminating the necessity for vehicle traffic, and encouraging residents to walk to shops, restaurants, and parks. For this specific development, retail shops were place in strategic areas, with bigger stores on the corners for more visibility, and specialty shops and restaurants in the middle for a variety of character and appeal (ULI Development, n.d.).

Santana Row has a variety of different housing options throughout the property, where residents have shops and restaurants in very close proximity. Since lofts and flats are high density areas, they are located above retail stores. Lower density units such as town homes and villas are surrounded around the strip, and have interior courtyards and open space for residents to have privacy and safety, as well as protects them from noise and traffic within the area (ULI Development, n.d.).

Santana Row has wide sidewalks for pedestrians to walk up and down the street and have landscape medians that reduce the traffic congestion in the area (Figure 3.2). In terms of vehicles, there is limited street parking spots that provide a buffer for pedestrians and vehicular traffic (ULI Development, n.d.). In addition, there are two parking structures that are located underground and behind retail to limit the visual impact of people walking through the shops. Throughout the site, parking structures increase pedestrian circulation and encourage pedestrians to travel on foot.

The design of this mixed-use project is the main reason on why this is a successful project. It's architectural character, range of uses, and walkability creates people's experiences beyond the traditional shopping center.

FIGURE 3.1 SITE PLAN OF SANTANA ROW

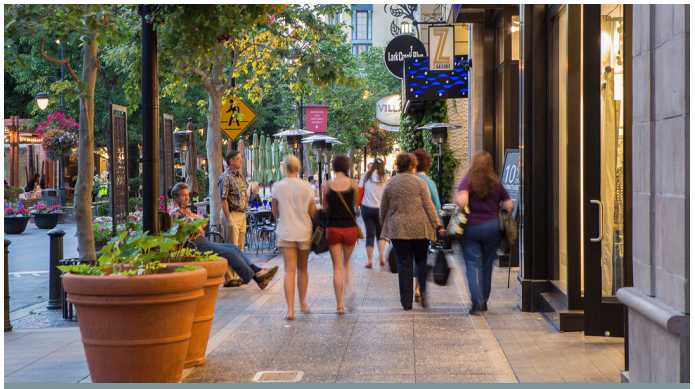


FIGURE 3.2 SANTANA ROW'S WIDE, WALKABLE SIDEWALK

3.2 MASHPEE COMMONS

Located in Mashpee, Massachusetts, Mashpee Commons is the first retrofit from a strip shopping center to a mixed-use, mixed-income, town center that is pedestrian friendly (DPZ, 2016). Mashpee Commons was once a spread out strip shopping mall and was reconstructed, both with new buildings and existing ones, to become an active urban area for the nearby suburban area (Figure 3.3). With this new reconstruction, it consisted of 265,000 square feet of commercial use that was almost four times the area of the original shopping center, and 100 housing units that would be on the second story of the commercial units (Dunham-Jones & Williamson, 2011). Other amenities included two residential neighborhood connecting to the center, a church, a hotel, a children's museum, a library, a medical office, and a performing arts theater (DPZ, 2016). These specific places that were proposed and implemented in the Mashpee Commons completed the community.

Within the mixed-use center of the Mashpee Commons, they were able to provide lofts and live-work units for people who currently had their own business in the center so that they were able to pay only one mortgage for both their commercial space and residential space (Figure 3.4) (DPZ, 2016). This was a smart idea because people who worked in the center were able to be very efficient and have the accessibility for their every day work and did not need to commute a long distance. One significant approach the developers of Mashpee Commons took was building the commercial core of the project first, and then using its success to develop the higher-density residential development adjacent to the center (Dunham-Jones & Williamson, 2016). Mashpee Commons has created a large demand for compact housing types in neighboring locations, instead of large-lot, auto-dependent housing (Dunham-Jones & Williamson, 2016).

A disadvantage of Mashpee Commons was that the "lifestyle mall" that it turned into did not completely solve the excess space of parking lots. Of this development, it still included surface parking areas, which it is not connected at all. Mashpee Commons did become a more walkable area, but it also became an island development that still surrounded by parking areas throughout the site. By just creating a walkable area with commercial uses and accessible residential area, was not enough, and the problem of not using the area to its full potential still exists. This project has its disadvantages, but does an excellent job in providing housing opportunities for store owners and residents of Mashpee.

FIGURE 3.3 BEFORE RECONSTRUCTION

FIGURE 3.4 MIXED-USE LIVE-WORK UNITS

4
FREMONT'S BACKGROUND

The section summarizes the physical, social, and economic conditions in Fremont, California using information from Census data from the 2016 Census and the City of Fremont's website.

4.1 LOCATION

Fremont was first settled when Mission San Jose, the 14th California Mission, was founded in 1797 and by 1956, Mission San Jose, Centerville, Niles, Irvington, and Warm Springs came together to form the City of Fremont (City of Fremont). It is located in Alameda County, California and consists of about 90 square miles of land, located at the southern end of the San Francisco Bay. Fremont is a very dense and populated community which explains why it is the fourth-largest city in the Bay Area for population, and the second largest city for land area. Fremont's location is within the Silicon Valley because of the amount of high tech companies booming in the area and is a home to a variety of innovative firms. Interstate 880 and 680 are the main highways in the Bay Area and are heavily used by Fremont residents to commute to and from work in the area. The City is recognized for its ethnically and culturally diverse cities, in addition to high-ranking public schools and recreational amenities that allow Fremont to be a community people love to live, work, and play (City of Fremont).

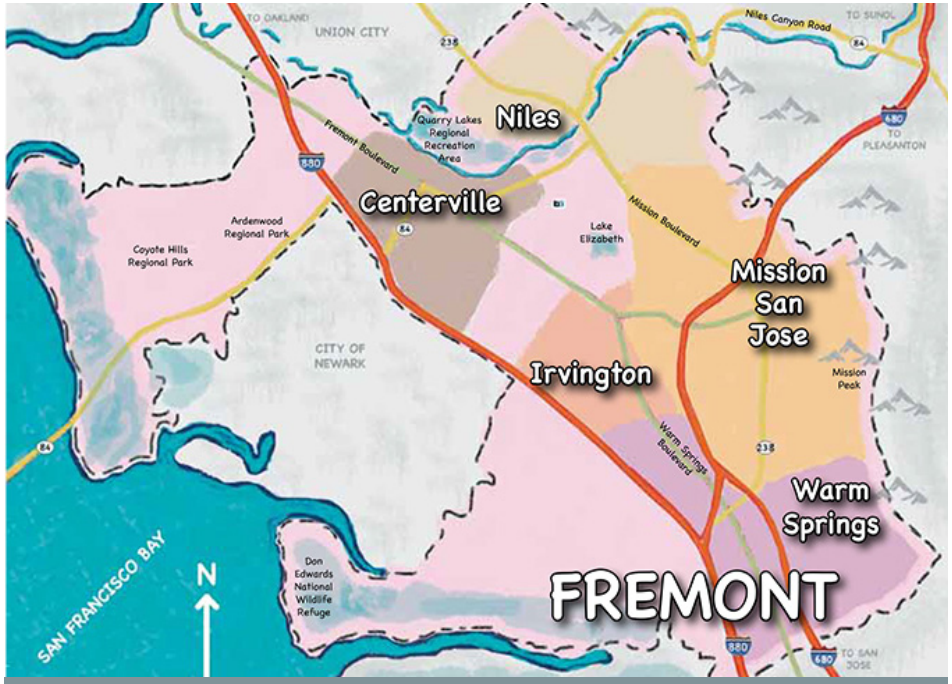


FIGURE 4.1 SITE MAP OF FREMONT'S FOUR DISTRICTS

4.2 POPULATION

According to the City of Fremont's website, Fremont has a total population of 231,664 and is continuing to increase rapidly. Fremont has become one of the most ethnically and culturally diverse cities in the Bay Area. In the 2000 Census, 47.7 percent of the population was White, while 37 percent was Asian. Today, Fremont's population has changed to 50 percent of the population being Asian, 33 percent of the population being White, 14 percent of the population being Hispanic, and 3 percent of the population being Black/African American.

4.3 HOUSING

According to the 2016 Census, the number of total households in Fremont is 76,000. Of this total, 44,986 are owner-occupied housing units with an average household size of 3.13, while 28,007 are renter-occupied housing units with an average household size of 3.05.

Fremont is continuing to grow because of the technology industry increasing and housing prices are becoming more of a financial burden. Of the 44,896 owned housing units, 76% have a mortgage with a median of about $2,763 a month and the median home price in 2015 was $760,000. With rented housing units, the average monthly rent for a 2 bedroom unit is $2,760. More and more housing are being developed in Fremont to accommodate the technology industry.

SINGLE-FAMILY HOME IN FREMONT

MULTI-FAMILY HOME IN FREMONT

4.4 INCOME

According to the 2016 Census, the median income in Fremont was $111,613. In the past 2 years the "Community Profile 2018" has indicated that the income in Fremont has increased by about $3,000 to a median income of $114,684. About 20% of the total households make $50,000 or less in income that would make it difficult to live in Fremont.

4.5 EMPLOYMENT

The 2016 Census estimates that there are 112,997 employed living in Fremont. Management, business, science, and art occupations make up 58 percent, with sales and office as the second highest at 19% of the employed population (Figure 4.2).

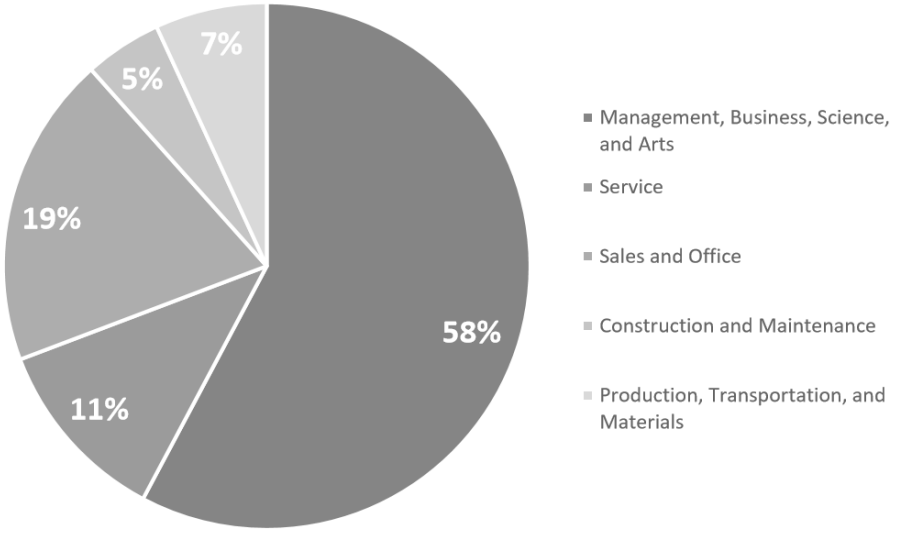


FIGURE 4.2 EMPLOYMENT BASED ON OCCUPATIONS IN FREMONT

4.6 ECONOMIC DEVELOPMENT

The City of Fremont has been ranked number one in the country for the number of startups per capita according to the City of Fremont. It is known as the Bay Area's leader in advanced manufacturing and the home to large tech companies such as Tesla, Solar City, Lam Research, Delta, Seagate, and Thermo Fisher Scientific (Figure 4.3) (City of Fremont, 2018). This has kept the economy in a good spot, but has also increased the housing market in Fremont that has affected many people. Fremont is continuing to grow in successful businesses and becoming more and more a technology city.

FIGURE 4.3 MAJOR TECH COMPANIES IN FREMONT

5

PROJECT SITE

The section discusses the physical and social attributes of the Fremont Hub. The site's location, circulation, land use, and tenants are explained in more detail and gives context to the shopping center's overall condition.

5.1 THE FREMONT HUB

The Fremont Hub is a 504,000 square foot shopping center in Fremont, California. It has been serving nearby residents since it opened in 1961 and has had many improvements since its construction (The Fremont Hub, 2018). The Fremont Hub is a single story outdoor shopping center that has stores in the middle of the site facing different ways and along Argonaut Way facing inward. It has 83 tenants, with 12 of them currently vacant with 2,665 parking spaces surrounding the entire site. The Fremont Hub is owned by Kimco Realty Corporation, one of the largest publicly traded real estate investment trust headquartered in New Hyde Park, New York (The Fremont Hub, 2018). Kimco's mission is to create a place for everyday living that stimulate a sense of community and bring revenue to stakeholders (The Fremont Hub, 2018).

5.2 LOCATION

Although the Fremont Hub is currently underutilized, the site has the potential to be something residents of Fremont can appreciate and be used to its full capacity. The Fremont Hub is located on the corner of Fremont Boulevard and Mowry Avenue, two of the main streets in Fremont. It is directly in the middle of the two interstates, Interstate 680 and Interstate 880. Single-family and multi-family homes surround the entire Fremont Hub, except for the east side of the site across from Fremont Boulevard. Having a large number of residential homes surround the site, enhances the ability to make the Fremont Hub serve the nearby residents. On the east side directly across the street from the Fremont Hub is where the Fremont Downtown is currently being built. This will provide a connection between the Fremont Hub and the Fremont Downtown.

5.3 HISTORY

In 1961, the Fremont Hub was developed and because of its long history, is one of the best-known malls in Northern California (Fremont Hub Shopping Center, n.d.). A retail store, Montgomery Ward, closed around 2000 and the Hub began having hard times. Within the Fremont Hub, Target replaced Montgomery Ward and became the main anchor store for future development. After some thorough research, P. O'B Montgomery redeveloped the center demoliting existing buildings, in addition to adding 50,000 square feet of building in the center, which created flexibility for the buildings (Fremont Hub Shopping Center, n.d.). With P. O'B Montgomery & Company's effort in revitalizing the shopping center resulted in value increase, better stability, a revived back side of the center, and a strong merchant base to attract additional tenants (Fremont Hub Shopping Center, n.d.).

FIGURE 5.1 THE FREMONT HUB IN 1961

5.4 CIRCULATION

In Fremont, the main source of transportation is by automobile. The main arterial roads that give access to the Fremont Hub is Mowry Avenue and Fremont Boulevard, which includes three lanes on each side (Figure 5.2). The collector roads, Walnut Avenue and Argonaut Way, still give access to the site, but have low circulation around the site as it changes from two lanes to a single lane road. In addition, they provide access to the residential properties. Around the entire site, sidewalks are provided, as well as bike lanes, that make it accessible for walking and biking to and from the site. The Fremont BART (Bay Area Rapid Transit) is about a mile away from the site, that is a main source of public transportation used for residents to commute to work every day that starts in Fremont and has multiple stops until it ends in San Francisco.

FIGURE 5.2 CIRCULATION MAP

ENTRANCE AT MOWRY AVENUE

ENTRANCE AT FREMONT BOULEVARD

5.5 ZONING

The Fremont Hub is currently zoned as City Center (Figure 5.3). In the City Center Community Plan, there are standards to implement a community vision that includes physical character and land use. The project site is considered to be the urban neighborhood zone in the City Center boundary.

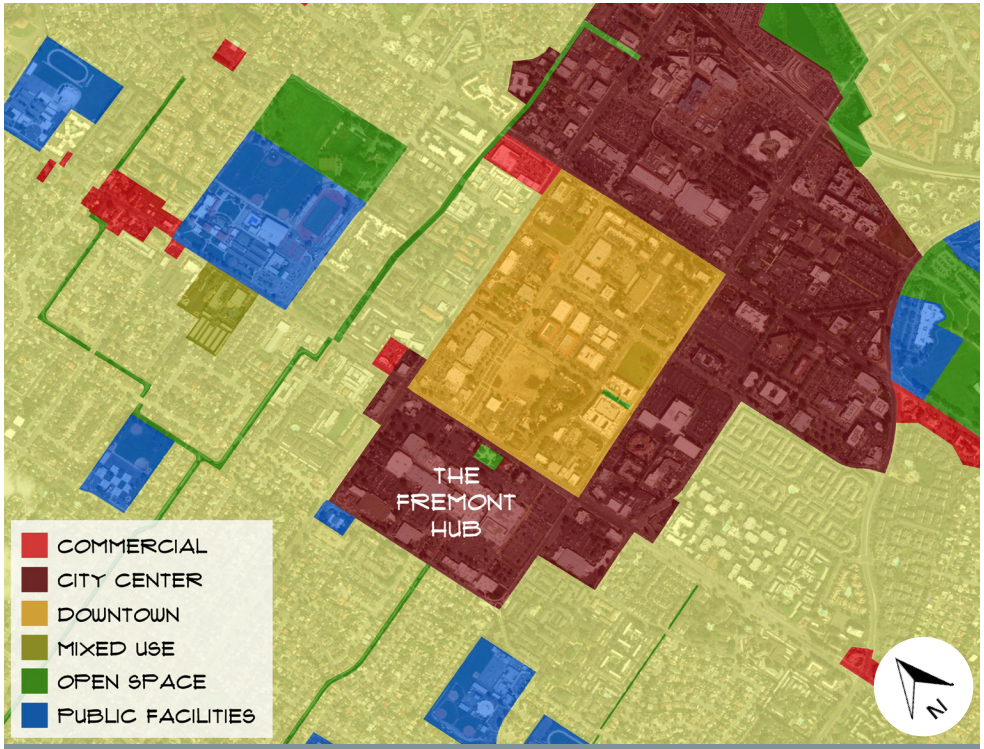


FIGURE 5.3 ZONING MAP

CITY CENTER ZONING REGULATIONS	
PURPOSE	TO SUPPORT DOWNTOWN AND EMPLOYMENT CORE AREAS WITH A WIDE VARIETY OF HOUSING OPPORTUNITIES, NEIGHBORHOOD SERVICES, OFFICE SPACE, NEIGHBORHOOD RETAIL, AND REGIONAL RETAIL
HEIGHT LIMIT	SIX STORIES (MIXED & SINGLE USE)
SITE AREA	SITES THAT HAVE AT LEAST 20,000 SQUARE FEET OF BUILDING SITE SHOULD PROVIDE AT LEAST 15 PERCENT ON-SITE PUBLIC AND SEMI-PUBLIC OPEN SPACE
PARKING	FOR THE URBAN NEIGHBORHOOD ZONE IN THE CITY CENTER DISTRICT, COMMERCIAL USES ARE REQUIRED TO HAVE A MINIMUM OF 2.25 SPACES PER THOUSAND GROSS SQUARE FEET, WHILE RESIDENTIAL USES ARE REQUIRED TO HAVE A MINIMUM OF ONE PARKING SPACE PER UNIT.

Note: Zoning regulations retrieved from the City of Fremont Zoning Ordinance

5.6 TENANTS

The Fremont Hub has a wide variety of tenants that range from general retail, restaurants, grocery stores, to offices and personal services. The most popular and bigger tenants include: Target, Safeway, Ross, Bed Bath & Beyond, CVS, Pet Smart, and Trader Joe's (Figure 5.4). In addition, stores and food services like Daiso Japan, Indian Restaurant, King Noodle, and Tata Teahouse are rented out by small business owners and all show a perfect example on how culturally diverse the City of Fremont is.

FIGURE 5.4 SITE PLAN OF THE FREMONT HUB

	TENANT	SQFT
1	CVS	26,584
2	Nothing Bundt Cakes	2,380
3	Available	2,800
4	Staples	19,300
5	Beads At Beads	760
6	All Seasons Travel	445
7	Nurture Kids	3,130
8	Nail Glamour	1,300
9	Available	3,500
10	Sammi's Skin Care	1,700
11	Dr. Guy G. Nazareno	1,902
12	GameStop	1,506
13	Ohana Hawaiian BBQ	1,057
14	Posh Bagel	2,090
15	Available	2,000
16	C2 Education Center	1,818
17	Springleaf Financial	1,500
18	Half Price Books	8,781
19	Acupuncture Clinic	977
20	Sleep Train Mattress Center	4,900
21	Steve's Hallmark	4,200
22	Pier 1 Imports	10,493
23	Party City	25,000
24	Gymboree Play & Music	2,300
25	Fremont Laser Med Spa	800
26	Tandy Leather Factory	2,078
27	Magic Clippers	433

	TENANT	SQFT
28	Fashion Plaza	3,349
29	Site for Sore Eyes	1,505
30	Cricket Wireless	1,028
31	Liberty Tax Service	695
32	Ross	30,000
33	Daiso Japan	8,400
34	Lane Bryant	8,400
35	Available	6,300
36	Available	1,467
37	Bed Bath & Beyond	39,830
38	Marshalls	30,028
39	Available	4,833
40	Sprint	3,069
41	Available	2,500
42	Payless ShoeSource	2,500
43	Q-Cup	955
44	Bistro Viet House	1,055
45	Available	1,730
46	Available	1,860
47	Indian Restaurant	2,500
48	Amia Bakery	1,710
49	Cold Stone Creamery	1,310
50	Available	7,742
51	California Bank & Trust	6,000
52	AT&T Company Store	2,944
53	PetSmart	26,050
54	Trader Joe's	12,000

	TENANT	SQFT
55	GNC	2,355
56	Hub's Five & Ten	6,755
57	Brookvale Dental	3,050
58	Popeyes Chicken & Biscuits	1,584
59	Tata Teahouse	1,499
60	King Noodle	3,300
61	Jack's Brewing Company	4,600
63	Michaels	23,683
64	T-Mobile	2,980
65	Western Federal CU	3,960
66	Chili's	6,096
67	Subway	1,280
68	European Wax Center	1,200
69	The UPS Store	1,075
70	Alterations To Go	850
71	Safeway	54,741
72	Taco Bell Express	2,073
73	Supercuts	900
74	Vision First Eye Care	1,488
75	Verizon Wireless	1,374
76	The Nawab's Kitchen	1,532
77	MOD Pizza	2,560
79	Available	722
80	Available	18,300
81	Ulta	10,000
82	Little Scissors	1,290
83	Available	1,925

Note: List of tenants retrieved from www.thefremonthub.com

FIGURE 5.5 SITE INVENTORY MAP

PROPERTY NUMBER: 1

PARCEL VACANT/BUILT? BUILT
NUMBER OF FLOORS: 1
PRIMARY USE: VALERO GAS STATION
CONDITION: GOOD CONDITION; BUILDING OF CONVENIENT STORE LOOKS APPEALING FOR CORNER SPOT; HAS VEGETATION AROUND THE AREA THAT IS IN GOOD SHAPE
NOTES: ALSO INCLUDES A CONVENIENT STORE AND A CAR WASH; ON CORNER OF MAIN STREETS, FREMONT BLVD AND MOWRY AVE; HIGHLY USED AS THE MAIN GAS STATION IN THE AREA

PROPERTY NUMBER: 2

PARCEL VACANT/BUILT? BUILT
NUMBER OF FLOORS: 1
PRIMARY USE: AT&T STORE
CONDITION: GREAT CONDITION; FAIRLY NEWER STORE IN THE SHOPPING CENTER
NOTES: ENTRANCE FACES THE STREET TOWARDS FREMONT BLVD

PROPERTY NUMBER: 3

PARCEL VACANT/BUILT? BUILT
NUMBER OF FLOORS: 1
PRIMARY USE: CHILI'S RESTAURANT
CONDITION: GREAT CONDITION; BUILDING IS AESTHETICALLY PLEASING WITH TREES SURROUNDING THE BUILDING
NOTES: ENTRANCE FACES THE STREET TOWARDS FREMONT BLVD; LOCATED NEXT TO A SMALL GREENSPACE AND SMALL BUILDING

PROPERTY NUMBER: 4

PARCEL VACANT/BUILT? VACANT
NUMBER OF FLOORS: 1
PRIMARY USE: VACANT
CONDITION: IN POOR SHAPE
NOTES: WAS PREVIOUSLY A RESTAURANT THAT WENT OUT OF BUSINESS A FEW YEARS AGO; NOW LOOKS ABANDONED AND DOES NOT SEEM LIKE A NEW PLACE WILL GO IN SOON

PROPERTY NUMBER: 5

PARCEL VACANT/BUILT? BUILT
NUMBER OF FLOORS: 1
PRIMARY USE: CALIFORNIA BANK & TRUST
CONDITION: OLDER BUILDING THAT HAS NOT BEEN REDONE IN A LONG TIME; DOES NOT HAVE A HIGH TRAFFIC OF PEOPLE
NOTES: HAS A DRIVE-THRU FOR THE BANK; PARKING IS UNDERUSED AND NOT USED OFTEN; PARKING USUALLY ENDS UP BEING CUSTOMERS FOR TARGET INSTEAD

PROPERTY NUMBER: 6

PARCEL VACANT/BUILT? BUILT (ONE PARCEL IS VACANT)
NUMBER OF FLOORS: 1
PRIMARY USE: COMMERCIAL AND FOOD SERVICES
CONDITION: BUILDINGS NEED TO BE REPAINTED; SIDEWALK CONDITIONS IN FRONT OF STORES ARE GOOD
NOTES: HAS 13 PARCELS; ONE SIDE OF PROPERTY IS ONLY ACCESSIBLE FROM AN OUTDOOR ALLY WALKWAY AND FACES PROPERTY NUMBER 7.

PROPERTY NUMBER: 7

PARCEL VACANT/BUILT? BUILT (SIX PARCELS ARE VACANT)
NUMBER OF FLOORS: 1
PRIMARY USE: COMMERCIAL AND FOOD SERVICES
CONDITION: BUILDING NEEDS TO BE REPAINTED; SWITCHES COLORS OF BUILDING RANDOMLY; COLD STONE HAS THEIR BIG BLUE TRASH BINS IN FRONT WHICH DOES NOT LOOK APPEALING; COULD USE MORE VEGETATION ALONG SIDEWALK ALONG THIS PROPERTY
NOTES: HAS 20 PARCELS; ONE SIDE OF PROPERTY IS ONLY ACCESSIBLE FROM AN OUTDOOR ALLY WALKWAY AND FACES PROPERTY NUMBER 6

PROPERTY NUMBER: 8

PARCEL VACANT/BUILT? BUILT (TWO PARCELS ARE VACANT)
NUMBER OF FLOORS: 1
PRIMARY USE: COMMERCIAL
CONDITION: BUILDINGS NEED TO BE REPAINTED; SOME PAINT LOOKS NEWER AND SOME LOOKS FADED; HAS SOME VEGETATION, BUT COULD USE MORE
NOTES: HAS 16 PARCELS; ONE SIDE OF PROPERTY IS ONLY ACCESSIBLE FROM AN OUTDOOR ALLY WALKWAY AND FACES PROPERTY NUMBER 9

PROPERTY NUMBER: 9

PARCEL VACANT/BUILT? BUILT (TWO PARCELS ARE VACANT)
NUMBER OF FLOORS: 1
PRIMARY USE: COMMERCIAL
CONDITION: BUILDING NEEDS TO BE REPAINTED; ULTA IS NEWER AND DOES NOT MATCH THE PROPERTY AROUND IT WHICH MAKES IT REALLY STAND OUT
NOTES: HAS 5 PARCELS; TWO PARCELS FACE PROPERTY NUMBER 8 FROM THE OUTDOOR ALLY WALKWAY

PROPERTY NUMBER: 10

PARCEL VACANT/BUILT? BUILT
NUMBER OF FLOORS: 1
PRIMARY USE: TARGET
CONDITION: LOOKS REPAINTED AND NEWER COMPARED TO THE ENTIRE SITE; HAS A LOT OF PARKING AROUND TARGET AND HAS TREES AND VEGETATION THROUGHOUT
NOTES: VERY POPULAR STORE IN THE FREMONT HUB WITH A LOT OF FOOT AND CAR TRAFFIC

PROPERTY NUMBER: 11

PARCEL VACANT/BUILT? BUILT
NUMBER OF FLOORS: 1
PRIMARY USE: GROCERY STORE, COMMERCIAL, & FOOD SERVICES
CONDITION: SAFEWAY IS IN GOOD CONDITION, BUT ON BOTH SIDES COULD BE MORE ATTRACTIVE; HAS A LOT OF PARKING IN THIS AREA
NOTES: HAS 11 PARCELS AND NONE ARE VACANT; GROCERY STORE CREATES A LOT OF FOOT AND CAR TRAFFIC

PROPERTY NUMBER: 12

PARCEL VACANT/BUILT? BUILT
NUMBER OF FLOORS: 1
PRIMARY USE: COMMERCIAL
CONDITION: BUILDING IS IN GOOD CONDITION; NO TYPE OF VEGETATION IN FRONT OF STORES AND COULD USE SOME
NOTES: HAS 3 PARCELS AND NONE ARE VACANT

PROPERTY NUMBER: 13

PARCEL VACANT/BUILT? BUILT
NUMBER OF FLOORS: 1
PRIMARY USE: JACK'S RESTAURANT
CONDITION: HIDDEN BY TREES A LITTLE BIT; BUILDING IS IN GOOD CONDITION BUT DOES NOT MATCH ANY PART OF THE SITE IN TERMS OF BUILDING COLOR AND TYPE
NOTES: HAS A GRASSY AREA ON THE SIDE OF IT; IS SURROUNDED BY VEGETATION THROUGHOUT THE AREA

PROPERTY NUMBER: 14

PARCEL VACANT/BUILT? BUILT
NUMBER OF FLOORS: 1
PRIMARY USE: GROCERY STORE, COMMERCIAL, & FOOD SERVICES
CONDITION: BUILDING IS IN GOOD CONDITION ON ONE SIDE WITH TRADER JOE'S; THE OTHER SIDE IS NOT VERY ATTRACTIVE TO PEOPLE
NOTES: HAS 7 PARCELS AND NONE ARE VACANT; TRADER JOE'S ATTRACTS FOOT AND CAR TRAFFIC IN THIS AREA

PROPERTY NUMBER: 15

PARCEL VACANT/BUILT? BUILT
NUMBER OF FLOORS: 1
PRIMARY USE: PET SMART
CONDITION: BUILDING COULD BE REPAINTED; HAS NO VEGETATION IN FRONT OF THE STORE AND SHOULD BE BECAUSE OF ANIMALS COMING IN AND OUT OF THE STORE
NOTES: HAS A CORNER OF PARKING FOR THIS PROPERTY

5.8 SURROUNDING CONDITIONS

The uses surrounding the site includes a mix of commercial, additional city center uses, multi-family residential homes, single-family residential homes, public facilities, and the downtown (Figure 5.6).

FIGURE 5.6 SURROUNDING CONDITIONS MAP

MOWRY AVENUE

ARGONAUT WAY

WALNUT AVENUE

FREMONT BOULEVARD

5.9 OPPORTUNITIES & CONSTRAINTS

The following chart represents opportunities and constraints throughout the project site. It is helpful information that is intended to create the project site with area's of opportunities to redevelop the Fremont Hub to its best ability and focus on the important aspects. In addition, the constraints developed for the Fremont Hub influence aspects that are obstacles throughout the site and should be considered when redeveloping.

OPPORTUNITIES
PROXIMITY TO DOWNTOWN
PROXIMITY TO PUBLIC SCHOOLS
PROXIMITY TO BAY AREA RAPID TRANSIT (BART) AND INTERSTATE 680 & 880
CONSISTENT SIDEWALKS
CONSISTENT BIKE LANES AROUND PROJECT SITE
VALERO GAS STATION ON SITE IS A IMPORTANT ASSET

CONSTRAINTS
MOWRY AVENUE AND FREMONT BOULEVARD ARE BUSY MAIN STREETS
INFRASTRUCTURE IS NOT UPDATE; POOR BUILDING CONDITIONS
PARKING IS EXCESSIVE AND UNDERUSED IN AREAS
CENTER COMMERCIAL BUILDINGS DO NOT ATTRACT PEOPLE (SHOULD BE MOST WALKABLE AREA)
VACANT PARCELS THROUGHOUT SITE (DOES NOT ATTRACT PEOPLE
LOW COMMUNITY ACTIVITY IN THE SITE

6
VISION

LAND USE	NUMBER OF STORIES	SQUARE FOOTAGE	UNITS
COMMERCIAL RETAIL	1	641,826	N/A
HIGH-DENSITY RESIDENTIAL	2 TO 3	1,459,485	1,262 (1,2,3 BEDROOM)
MEDIUM-DENSITY RESIDENTIAL	2 TO 3	167,637	46 TOWNHOMES
	TOTAL	2,268,948	1,308 UNITS

VISION

"The Fremont Hub will be a main corridor for attracting residents and visitors, through the use of a visual appealing mixed-use and pedestrian friendly center that compliments the Fremont Downtown."

GOALS

1. The Fremont Hub will promote a walkable area to increase the pedestrian activity in and around the site.

2. The Fremont Hub will provide opportunities that encourage people to have social interactions throughout the site.

OBJECTIVES

1. Redevelop the streetscape with pedestrian infrastructure to promote pedestrian activity

2. Transform underused parking lot areas to enhance the project site

3. Provide public spaces to promote social opportunities

4. Incorporate residential housing that allows residents to limit vehicle circulation

FIGURE 6.1 ILLUSTRATIVE SITE PLAN

6.2 LAND USE

The proposed plan for the Fremont Hub would be to demolish all of the existing structures, except for the commercial spaces Target and the block that includes Safeway (Figure 6.2). The land use of Urban Neighborhood Zone would continue which supports retail, restaurants, mixed-use, and residential in the area. The concept plan proposes mixed-use buildings along Fremont Boulevard with commercial on the ground level and two stories of high-density residential units on top. Having mixed-use along a main corridor provides an aesthetic atmosphere when entering and driving by the Fremont Hub. On the corner of Argonaut Way and Walnut Avenue, the plan proposes solely high-density and medium-density residential units. This provides a noise barrier from the main corridors, Fremont Boulevard and Mowry Avenue, and sits alongside the surrounding residential uses. In addition, the plan provides a wide variety of commercial uses that is surround by public spaces for visitors and residents.

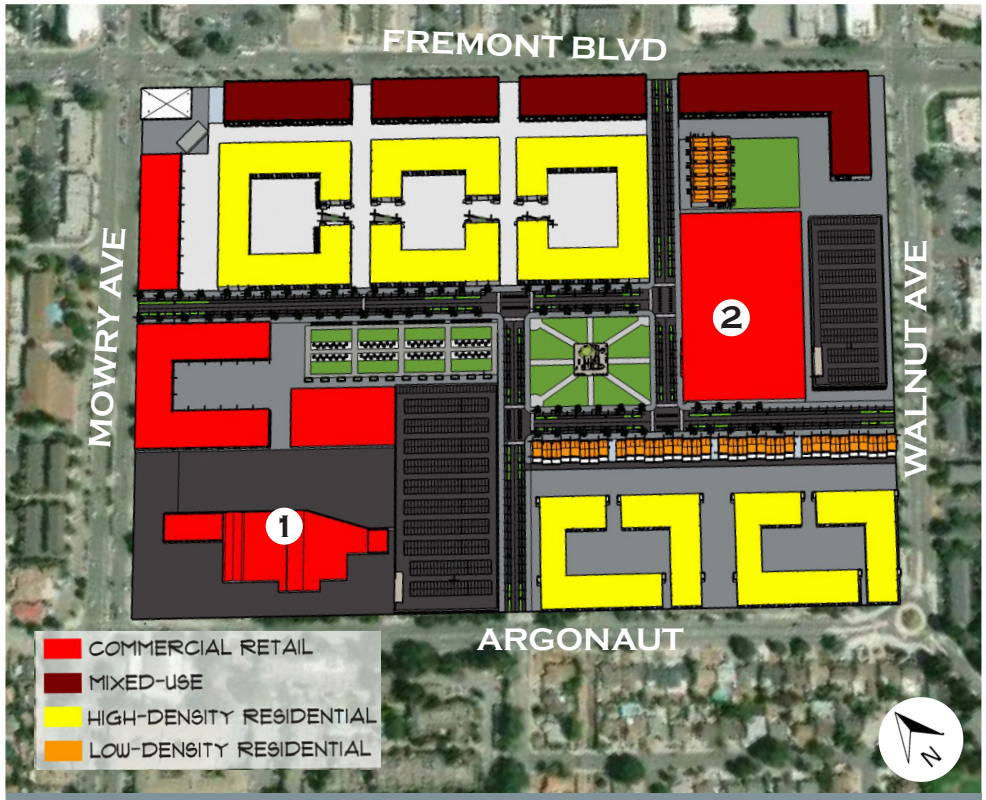


FIGURE 6.2 PROPOSED LAND USE MAP

EXISTING SAFEWAY BUILDING

EXISTING TARGET BUILDING

6.3 BUILDING TYPOLOGY

The proposed plan of the Fremont Hub consists of two types of typologies for commercial spaces. Figure 6.3 consists of single story commercial units, while Figure 6.4 consists of a mixed-use commercial space with residential on the second and third floor.

In addition, there are three types of residential typologies. Figure 6.5 includes a three story high-density residential unit that consists of one, two, and three bedroom apartments. Figure 6.6 consists of a two story townhome, while Figure 6.7 is a three story townhome.

FIGURE 6.3 SINGLE STORY COMMERCIAL UNIT

FIGURE 6.4 MIXED-USE COMMERCIAL WITH RESIDENTIAL UNITS ON TOP

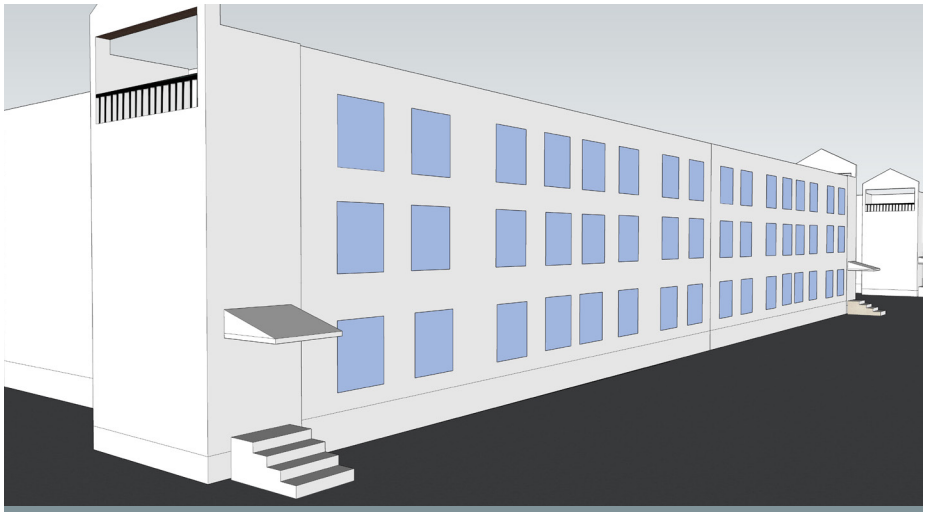


FIGURE 6.5 THREE STORY HIGH DENSITY RESIDENTIAL UNITS

FIGURE 6.6 TWO STORY TOWNHOME

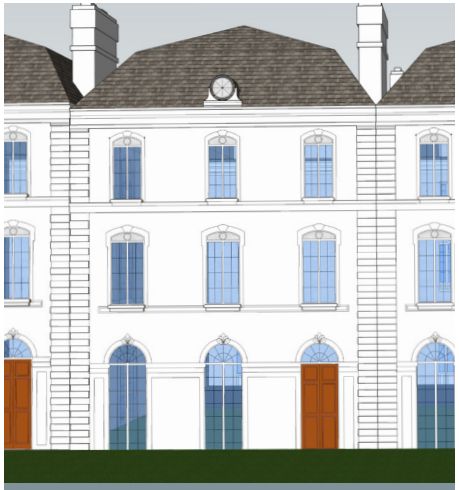


FIGURE 6.7 THREE STORY TOWNHOME

6.4 CIRCULATION

The Fremont Hub is designed to serve all modes of transportation in the site. The streets provide a connection from all four sides of the site that make it easy to access by a vehicle (Figure 6.8). Along the streets throughout the site include a painted bike path that promotes and encourages the use of bicycles. The site was broken up into five blocks that allows it to be more accessible and walkable from any part of the area. This provides visitors the ability to walk or bike instead of driving their vehicle. In addition, crosswalks are designed wider and create a pedestrian friendly destination for both visitors and residents in the area.

Two parking structures are proposed along Walnut Avenue and Argonaut Way. One parking structure is three stories, solely for parking, while the other is a mixed of commercial on the ground floor and an additional two story parking garage on top. Residents and visitors of the Fremont Hub will use both parking garages.

FIGURE 6.8 PROPOSED CIRCULATION MAP

FIGURE 6.9 STREET PARKING ALONG PROPOSED STREETS

WIDE SIDEWALKS

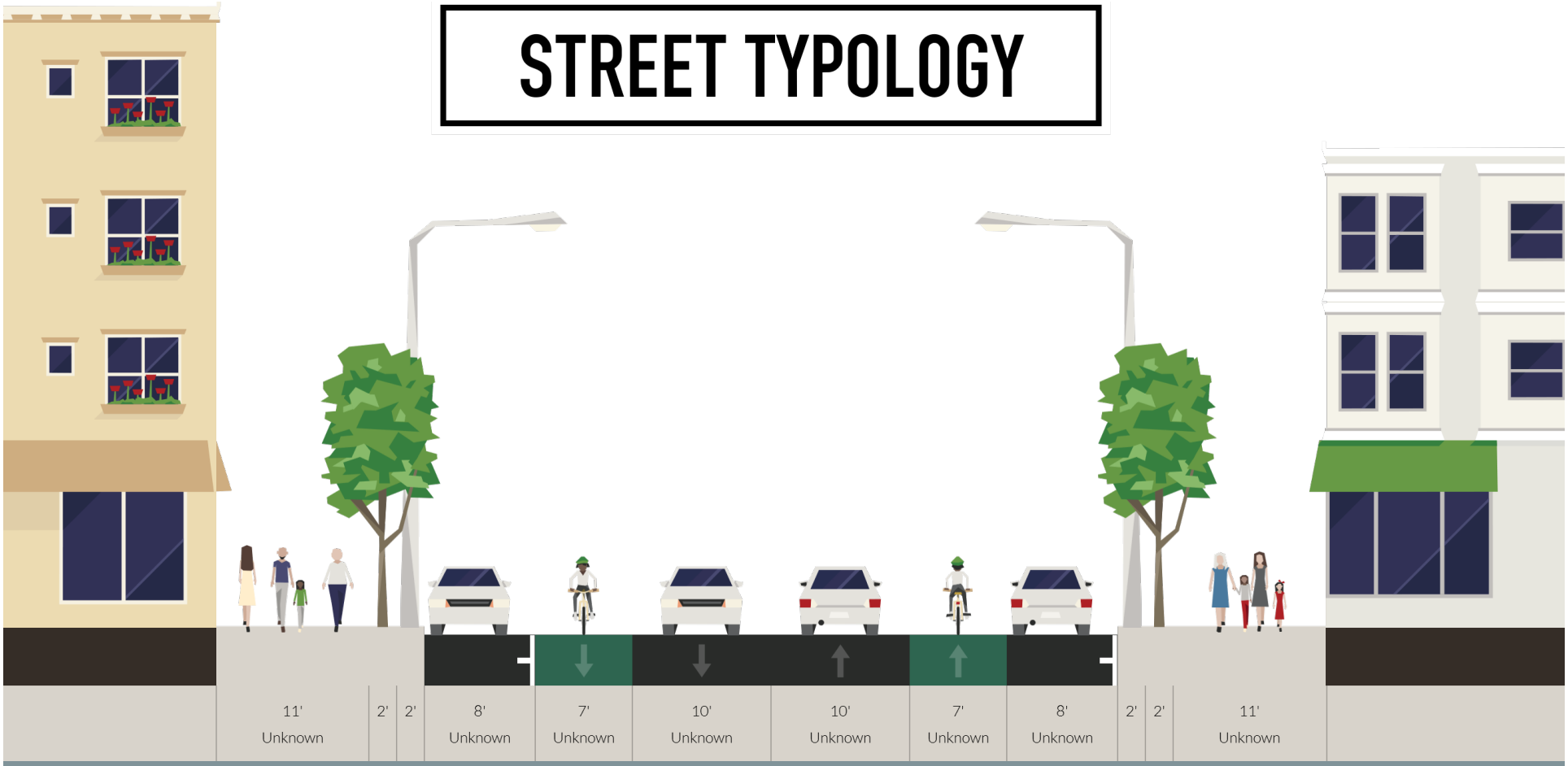


FIGURE 6.10 PROPOSED STREET TYPOLOGY

6.6 PLAZAS

The Fremont Hub includes multiple plaza space throughout the site. Three of the main plaza spaces are shown in Figure 6.14. These main plazas will be placed purposely between commercial retail and high-density residential units to provide a space for residents and visitors to rest and move from one use to another.

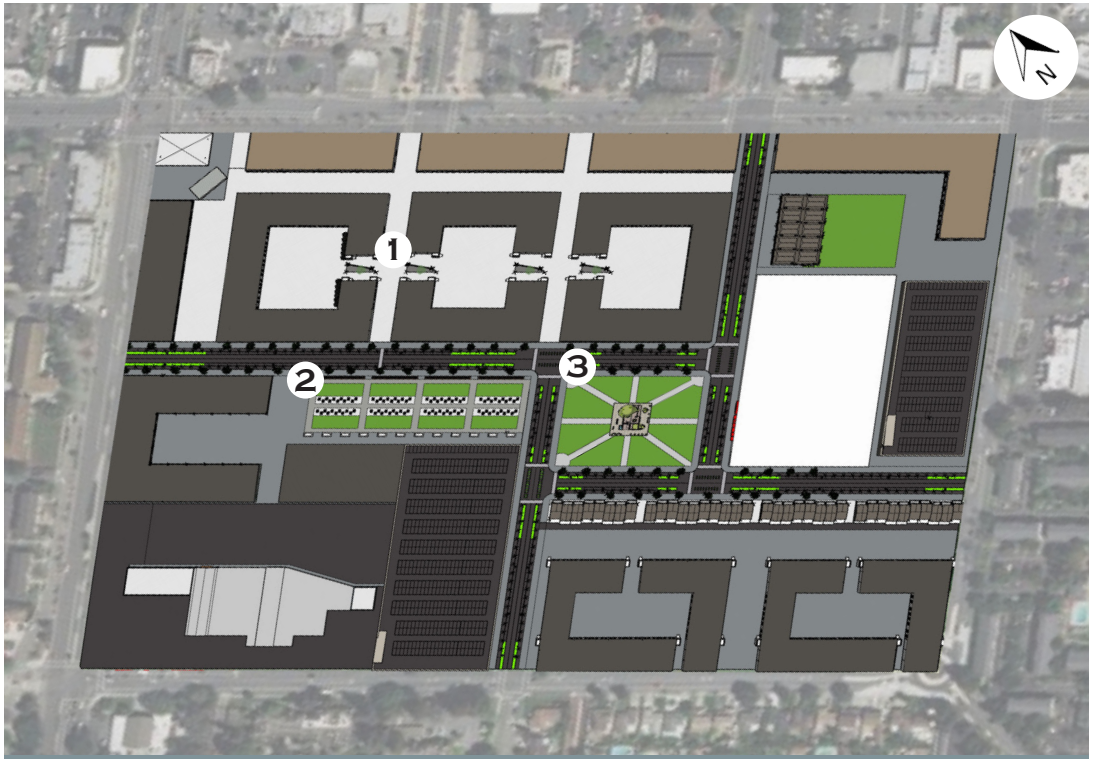
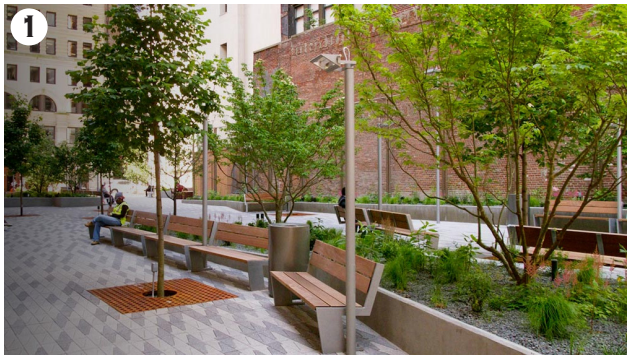


FIGURE 6.11 PROPOSED PLAZAS



OUTDOOR SEATING FOR RESIDENTS

PUBLIC PLAZA WITH SEATING FOR VISITORS

MEANDERING GREENSPACE PATHWAY

6.7 DEVELOPMENT TABLE

BUILDING NO.	NUMBER OF STORIES	GROUND FLOOR USE	UPPER FLOOR(S) USE(S)	FOOTPRINT SQUARE FOOTAGE	TOTAL SQUARE FOOTAGE
1	3	COMMERCIAL RETAIL	RESIDENTIAL	32,400	97,200
2	1	COMMERCIAL RETAIL	N/A	33,500	33,500
3	3	RESIDENTIAL	RESIDENTIAL	76,000	228,000
4	1	COMMERCIAL RETAIL	N/A	70,051	70,051
5	1	COMMERCIAL RETAIL	N/A	64,300	64,300
6	1	COMMERCIAL RETAIL	N/A	35,127	35,127
7	3	COMMERCIAL RETAIL	PARKING GARAGE	133,046	399,138
8	3	RESIDENTIAL	RESIDENTIAL	34,500	103,500
9	3	RESIDENTIAL	RESIDENTIAL	34,500	103,500
10	3	COMMERCIAL RETAIL	RESIDENTIAL	27,900	83,700
11	3	COMMERCIAL RETAIL	RESIDENTIAL	29,467	88,401
12	3	RESIDENTIAL	RESIDENTIAL	75,362	226,086
13	3	RESIDENTIAL	RESIDENTIAL	17,199	51,597
14	3	COMMERCIAL RETAIL	RESIDENTIAL	81,053	243,159
15	1	COMMERCIAL RETAIL	N/A	134,982	134,982
16	3	PARKING GARAGE	PARKING GARAGE	73,618	220,854
17	2	RESIDENTIAL	RESIDENTIAL	14,328	28,656
18	2	RESIDENTIAL	RESIDENTIAL	14,328	28,656
19	2	RESIDENTIAL	RESIDENTIAL	13,631	27,262
20	2	RESIDENTIAL	RESIDENTIAL	15,733	31,466
21	3	RESIDENTIAL	RESIDENTIAL	30,754	92,262
22	3	RESIDENTIAL	RESIDENTIAL	46,502	139,506
23	3	RESIDENTIAL	RESIDENTIAL	28,495	85,485
24	3	RESIDENTIAL	RESIDENTIAL	46,502	139,506
			TOTAL	1,148,950	2,755,894

	PARKING REQUIRED	PARKING PROVIDED
COMMERCIAL RETAIL	1,444	1,444
HIGH-DENSITY RESIDENTIAL	1,262	1,326
MEDIUM-DENSITY RESIDENTIAL	46	46
TOTAL	2,752	2,816

FIGURE 6.12 DEVELOPMENT TABLE MAP

FIGURE 6.13 VIEW OF THE PLAZA ON THE PROPOSED PLAZA LOOKING SOUTHEAST

FIGURE 6.14 VIEW OF THE PROPOSED STREET AND WIDE SIDEWALKS LOOKING SOUTHEAST

FIGURE 6.15 VIEW OF THE PROPOSED TWO STORY TOWNHOUSES LOOKING SOUTH

FIGURE 6.16 VIEW OF THE PROPOSED RESIDENTIAL PLAZA LOOKING EAST

7
CONCLUSION

Implementing the proposed Fremont Hub on the existing site would improve the City of Fremont. With the newly developed Fremont Downtown, this would provide a connection between the two and create an achor at the end of the Downtown. In addition, the Fremont Hub will create more opportunity for housing, jobs, and retail in the city, especially with how dense and populated Fremont is. This proposed project will include a total of 2,755,894 sqaure footage. This includes 641,826 square footage of commercial, 1,459,485 sqaure footage of high-density residential, and 167,637 sqaure footage of medium-density residential. The Fremont Hub will create a more walkable, inviting location for residents and visitor to interact and be apart of. Lastly, this will become a space where residents and visitors are encouraged to go.

8
REFERENCES

Adaptive Reuse. Department of the Environment and Heritage, 2004.

Barron, Mary. “Green Roofs.” Journal of Housing and Community Development, vol. 63, no. 4, July 2006.

Campoli, Julie. Made for Walking: Density and Neighborhood Form. Lincoln Institute of Land Policy, 2012.

City of Fremont. “About Fremont.” City of Fremont Official Website, www.fremont.gov/146/About-Fremont.

City of Fremont. “Demographics.” City of Fremont Official Website, www.fremont.gov/184/Demographics.

“City of Fremont Official Website | Official Website.” City of Fremont Official Website | Official Website, www.fremont.gov/.

“Community Profile 2018.” City of Fremont, 2018.

“DPZ.” Mashpee Commons, Mashpee, Massachusetts, USA, www.dpz.com/Projects/8633

Dunham-Jones, Ellen. Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs. 2011.

Fremont Hub Shopping Center. Po’B Montgomery & Co.

Mehaffy, Michael. “3. What Is Sustainable Urbanism?” ESUA, www.esua.com/e-learning/what-is-sustainable-urbanism.

“Pedestrian Infrastructure Footpaths.” Victoria Walks, 2017.

“Santana Row.” Santana Row, www.santanarow.com/.

Slavin, Matthew I. Sustainability in America’s Cities: Creating the Green Metropolis. Island Press, 2011.

“Stormwater Management Practices at EPA Facilities.” EPA, Environmental Protection Agency, 3 Feb. 2017, www.epa.gov/greeningepa/stormwater-management-practices-epa-facilities.

“Street Networks 101.” CNU, 28 June 2016, www.cnu.org/our-projects/street-networks/street-networks-101.

“Streetscape Elements.” Rockville Town Center.

WalkBoston. Pedestrian Infrastructure. 2015.

Wilkinson, Sara J., and Hilde RemÃ¸y. Sustainable Building Adaptation: Innovations in Decision-Making. John Wiley & Sons, 2014.

Zandieh, Razieh. “Older Adults’ Outdoor Walking.” Int. J. Environ. Res. Public Health, 2016.